

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HIDEKAZU MATSUURA,
YOSHIHIDE IWAZAKI and
NAOTO OHTA

Appeal No. 1999-0139
Application 08/542,576

ON BRIEF

Before KIMLIN, GARRIS and OWENS, **Administrative Patent Judges**.

OWENS, **Administrative Patent Judge**.

DECISION ON APPEAL

This is an appeal from the examiner's final rejection of claims 1-12, which are all of the claims remaining in the application.

THE INVENTION

The appellants' claimed invention is directed toward a process for making a semiconductor package wherein a semiconductor chip is bonded to a lead frame by an adhesive

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having specified properties. Claim 1 is illustrative:

1. A fabrication process of a semiconductor package, comprising the steps of:

(1) bonding a semiconductor chip to a lead frame with an adhesive member; and

(2) molding a molding compound so that the molding compound covers at least said semiconductor chip and a bonded part between the semiconductor chip and said lead frame, wherein:

said adhesive member is a composite adhesive sheet comprising a heat-resistant film and a coating layer of an adhesive applied on both major surfaces of the heat resistant film; and

said adhesive is a heat-resistant adhesive having a coming-out length of not more than 2 mm and a water absorption rate of not more than 3 wt.%.^[1]

THE REFERENCES

Newman et al. (Newman)	4,545,840	Oct. 08,
1985		
Pashby et al. (Pashby)	4,862,245	Aug. 29,

¹ The appellants define "coming-out length" as "the length of a came-out peripheral portion of a 19 x 50 mm wide adhesive film of 25 Fm in thickness as measured at a central part in the direction of the longer surfaces of the adhesive film when the adhesive film is pressed at 350°C under 3 MPa for one minute" (specification, page 8, lines 7-11).

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THE REJECTIONS

Claims 1-12 stand rejected as follows: under 35 U.S.C. § 102(b) as anticipated by or, in the alternative under 35 U.S.C. § 103 as obvious over Pashby, and under 35 U.S.C. § 103 as obvious over Pashby in view of Newman.

OPINION

We reverse the aforementioned rejections.

Rejection under 35 U.S.C. § 102(b)

In order for a claimed invention to be anticipated under 35 U.S.C. § 102(b), all of the elements of the claim must be found in one reference. ***See Scripps Clinic & Research Found. v. Genentech Inc.***, 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991).

Pashby discloses a method for making a semiconductor package wherein a semiconductor chip is bonded to a lead frame by an adhesive member comprised of a heat resistant film having an adhesive coating on both of its sides, and a molding compound covers the semiconductor chip and a bonded part

between the semiconductor chip and the lead frame (col. 3, lines 59-65; col. 4, lines 6-33). Pashby does not disclose the coming-out length or the water absorption rate of the adhesive.

The examiner argues that the adhesive in the processes of both Pashby (col. 4, lines 17 and 21) and the appellants (specification, page 7, line 19) can be a polyimide adhesive, and that because both adhesives are polyimide adhesives, they must have the same coming-out length and water absorption rate (answer, page 5).

The appellants argue that the coming-out length and the water absorption rate required by their claims are not inherent characteristics of polyimide adhesives (brief, pages 4-6). The appellants argue that their specification teaches (page 9, lines 5-16; page 18, line 23 - page 19, line 16) that the coming-out length and the water absorption rate depend upon the ratio of reaction components used to make the adhesive resin and upon additional factors such as the reaction conditions used in making the adhesive resin, the adhesive resin molecular weight, and the presence in the adhesive composition of additional resins such as epoxy resins

and additives such as a coupling agent (brief, page 6). The appellants argue that their comparative examples 3 and 4 (specification, page 43, line 19 - page 44, line 15) provide evidence that an adhesive made from a polyimide resin does not necessarily have the coming-out length required by their claims (brief, page 5). The coming-out lengths in comparative examples 3 and 4 are, respectively, 3.4 mm and 2.2 mm.

The examiner does not address the disclosure in the appellants' specification regarding the factors which influence the coming-out length and the water absorption rate. Nor does the examiner discuss the evidence in the specification. Instead,

the examiner erroneously argues that there is apparently nothing of record which indicates that all of Pashby's adhesives do not have a coming-out length within the range required by the appellants' claims (answer, page 9).

The appellants have, as discussed above, provided evidence that polyimide adhesives do not necessarily have a coming-out length within the range required by their claims,

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and the examiner has provided no evidence to the contrary. Thus, the greater weight of the evidence of record favors a finding that the examiner has not established a ***prima facie*** case of anticipation of the invention recited in any of the appellants' claims. Accordingly, we reverse the rejection under 35 U.S.C. § 102(b).

Rejections under 35 U.S.C. § 103

The examiner provides no explanation as to why Pashby would have fairly suggested, to one of ordinary skill in the art, modifying the process disclosed therein such that the adhesive has a coming-out length and a water absorption rate which are within the ranges required by the appellants' claims. We therefore reverse the rejection under 35 U.S.C. § 103 over Pashby.

The examiner relies upon Newman (col. 2, lines 57-67) for evidence that polyimides are heat resistant (answer, page 4). The examiner does not explain how Newman remedies the deficiency in Pashby discussed above. Hence, we reverse the

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rejection under 35 U.S.C. § 103 over Pashby in view of Newman.

DECISION

The rejections of claims 1-12 under 35 U.S.C. § 102(b) over Pashby and under 35 U.S.C. § 103 over Pashby and over Pashby in view of Newman are reversed.

REVERSED

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
BRADLEY R. GARRIS)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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)	
TERRY J. OWENS)	
Administrative Patent Judge)	

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